Notice of Allowability	Application No.	Applicant(s)	
	10/787,285	MAEJIMA, TOSHIO	
	Examiner	Art Unit	
	LAM.T. MAI	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *2/26/04*.

2. ☒ The allowed claim(s) is/are *1-8*.

3. ☒ The drawings filed on *26 February 2004* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 2/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Roger R Wise, Registration No.31,204 on 6/6/2005.

The application has been amended as follows: Specification, Page 9, lines 33, Change "FIG. 6E" to "FIG. 6F"

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 2/26/04 has been considered by the examiner.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Allowable Subject Matter

Claims 1-8 are allowable.

The following is an examiner's statement of reasons for allowance: Claims 1-5 are allowed over the prior art of record. The prior of record, considered individually or in combination, fails to fairly show or suggest the claimed amplifier comprising, among other limitations, a novel and unobvious limitation of "a triangular wave-generating device comprises an integrating device that includes an amplifier having a signal input terminal and a signal output terminal, and a capacitance element connected between said signal input terminal and said signal output terminal of said amplifier, a first constant-current device that charges said capacitance element such that an output voltage from said amplifier becomes equal to a first predetermined voltage, by causing a constant current to flow through said capacitance element in a predetermined direction, a second constant-current device that discharges said capacitance element such that the output voltage from said amplifier becomes equal to a second predetermined voltage lower than the first predetermined voltage, by causing a constant current to flow through said capacitance element in a direction opposite to the predetermined direction, a constant-current value-setting device that sets values of the constant currents caused to flow by said first and second constant-current devices, a changing device that changes the values of the constant currents set by said constant-current value-setting device, a first switching device that turns on or off to allow or block flowing of the constant current caused to flow by said first constant-current device, a second switching device that turns on or off to allow or block flowing of the constant current caused to flow by said second constant-current device, a first comparison device that compares the output voltage from said amplifier and the first predetermined voltage for outputting

a signal of a logic level dependent on a result of the comparison, a second comparison device that compares the output voltage from said amplifier and the second predetermined voltage for outputting a signal of a logic level dependent on a result of the comparison, and a flip-flop that inverts a logic level of an output signal therefrom when it is detected by said first comparison device that the output voltage from said amplifier has increased to reach the first predetermined voltage, or when it is detected by said second comparison device that the output voltage from said amplifier has decreased to reach the second predetermined voltage, whereby said first and second switching devices turn on or off, depending the logic level of the output signal from said flip-flop" structurally and functionally interconnected with other limitations in the manner as cited in claims 1-5. Claims 6-8 are allowed over the prior art of record. The prior of record, considered individually or in combination, fails to fairly show or suggest the claimed amplifier comprising, among other limitations, a novel and unobvious limitation of "a triangular wave-generating device comprises an integrating device that includes an amplifier having a signal input terminal and a signal output terminal, and a capacitance element connected between said signal input terminal and said signal output terminal of said amplifier, a first constant-current device that charges said capacitance element such that an output voltage from said amplifier becomes equal to a first predetermined voltage, by causing a constant current to flow through said capacitance element in a predetermined direction, a second constant-current device that discharges said capacitance element such that the output voltage from said amplifier becomes equal to a second predetermined voltage lower than the first predetermined voltage, by causing

a constant current to flow through said capacitance element in a direction opposite to the predetermined direction, a constant-current value-setting device that sets values of the constant currents caused to flow by said first and second constant-current devices, a changing device that changes the respective values of the constant currents that are caused to flow through said capacitive element in the predetermined direction and the direction opposite to the predetermined direction, a first switching device that is operable when a value of the constant current caused to flow by said first constant-current device is changed by said changing device, to turn on or off to allow or block flowing of the constant current whose value has been changed, and operable when the value of the constant current caused to flow by said first constant-current device has not been changed by said changing device, to turn on or off to allow or block flowing of the constant current whose value has not been changed, a second switching device that is operable when a value of the constant current caused to flow by said second constant-current device has been changed by said changing device, to turn on or off to allow or block flowing of the constant current whose value has been changed, and operable when the value of the constant current caused to flow by said second constant-current device has not been changed by said changing device, to turn on or off to allow or block flowing of the constant current whose value has not been changed, a first comparison device that compares the output voltage from said amplifier and the first predetermined voltage for outputting a signal of a logic level dependent on a result of the comparison, a second comparison device that compares the output voltage from said amplifier and the second predetermined voltage for outputting a signal of a logic level dependent on a

result of the comparison, and a flip-flop that inverts a logic level of an output signal therefrom when it is detected by said first comparison device that the output voltage from said amplifier has increased to reach the first predetermined voltage, or when it is detected by said second comparison device that the output voltage from said amplifier has decreased to reach the second predetermined voltage, whereby said first and second switching devices turn on or off, depending the logic level of the output signal from said flip-flop" structurally and functionally interconnected with other limitations in the manner as cited in claims 6-8.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Cited References

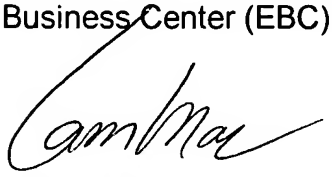
The prior art made of record and not replied upon considered pertinent to application's disclosure. The cited references relate to pwm amplifier with triangular wave generating device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM T. MAI whose telephone number is (571)272-1807. The examiner can normally be reached on 6:00 am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Tokar can be reached on (571) 272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lam T. Mai
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